

Overview of Structure

	1.0	2.0	3.0	4.0	5.0	6.0	
Algebraic properties of numbers and operations		<ul style="list-style-type: none">• use associative, commutative properties for addition calculations	<ul style="list-style-type: none">• use associative, commutative and distributive properties in multiplication calculations	<ul style="list-style-type: none">• know + & - and \times & \div are inverse operations	<ul style="list-style-type: none">• expand knowledge of properties of - and \div	<ul style="list-style-type: none">• link division of fractions with multiplication by inverse• link subtraction of negatives with addition of inverse	<ul style="list-style-type: none">• use properties of surds and exponents
Symbols and Expressions			<ul style="list-style-type: none">• identify number patterns and describe the general rule verbally• understand both meanings of '='• first use of a formula (area of rectangle)	<ul style="list-style-type: none">• use recursion rules and formulas e.g. to calculate a sequence of numbers	<ul style="list-style-type: none">• write algebraic rules from verbal descriptions and tables• recognise and make equivalent expressions (collect terms, expand, substitute, rearrange formulas, cancel)	<ul style="list-style-type: none">• factorise (common factors, binomial factors etc)• use exponent laws• make equivalent expressions including four operations with simple algebraic fractions	
Functions and graphs			<ul style="list-style-type: none">• use column graphs	<ul style="list-style-type: none">• use coordinates and line graphs• describe verbally relationships between everyday life variables and sketch informally	<ul style="list-style-type: none">• represent linear functions with tables, rules and graphs• model situations with linear and other selected functions (e.g. $xy = 30$)• link rate of change with slope of a linear graph	<ul style="list-style-type: none">• identify tables, rules and graphs of linear, quadratic and exponential functions• recognise roles of parameters in function rules• formulate functions for real world modelling	
Solving Equations		<ul style="list-style-type: none">• construct number sentences	<ul style="list-style-type: none">• solve number sentences with missing numbers, by observation or known facts• use tables to organise guess-check-improve	<ul style="list-style-type: none">• solve number sentences with missing numbers and simple word equations by guess-check-improve and in simple cases with inverse operations	<ul style="list-style-type: none">• solve linear and some other equations by inspection, backtracking & inverse operations (do same to both sides)• solve equations from tables of values; graphs; guess-check-improve	<ul style="list-style-type: none">• solve quadratic, simultaneous linear equations and linear inequalities algebraically & graphically.• solve equations of form $f(x) = k$ graphically & by guess-check-improve	
Sets	<ul style="list-style-type: none">• form sets from descriptions• describe sets	<ul style="list-style-type: none">• recognise sets and subsets	<ul style="list-style-type: none">• venn diagrams and karnaugh maps showing relation between 2 attributes or 2 sets		<ul style="list-style-type: none">• test validity of statements with <i>and</i>, <i>or</i>, <i>not</i>, <i>none</i>, <i>some</i>, <i>all</i>• power sets	<ul style="list-style-type: none">• express relations between 2, then 3, sets using membership, complement, intersection, union, and subset	
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